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10/042,762	02/22/2002	Qiong Li	US020053	2738

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EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/042,762	Applicant(s) LI ET AL.	
	Examiner Hanh Nguyen	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Response filed on 12/4/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-15 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 16-20 are rejected under 35 USC 103(a) as being unpatentable over Paul et al. (US Pat. 6,148,005) in view of Bigham et al. (Us Pat. 5,740,075).

In claims 1, 7 and 16, Paul et al. discloses a system for providing streaming fine granular scalability coded video data (fig.1; layered video multicast transmission 100 for transmitting streams of encoded video data from a sender 110 to one or more receiver 122; see Abstract) comprising:

a server (fig.1, sender 110) for sending fine granular scalability coded video data (transporting digitized and coded video frames from sender 110) into a data network (over network 150) through a plurality of channels (fig.1; layered video substreams of 131 a, b, c); see col.3, lines 55 to col.4; line 8. A receiver (fig.1, receiver 122) having a first network analyzer (fig.1, rate controller 300) that monitors network congestion conditions of the data network at the receiver (see Abstract; lines 12-13 & col.6, lines 1-5; a device for monitoring congestion state of the network 150), and dynamically modifies subscriptions to a predetermined number of the plurality of the channels (during network congestion, receiver 122 adaptive drops coded video

layers or adds a coded video layer depend on performance of video players the receiver is receiving; see fig.3; col.8, lines 7-20 & col.6, lines 1-25) based on the perceived congestion conditions of the data network at the receiver (depending on current network load; col.6, lines 1-5). Paul et al. does not disclose an adaptive node having a second network analyzer that accounts for the number of the channels subscribed to by the receiver.

It is noted from specification, page 5, paragraphs [20] and [21], an adaptive node is defined as capable of forwarding subscribed channels to receiver; accounts for channels subscribed by receiver, perceive network congestion at an adaptive node and dynamically modifies transmission of channels based on the perceived network congestions. Further, in paragraph [22], an adaptive node may serve as a control agent.

Bigham et al. discloses, in fig.1, access controller 16₁ (an adaptive node) located between video provider 11 (server) and customer devices 17 (see col.7, lines 30-40 and 60-67). The access controller is described, in fig.9, as access controller 2240 which monitor operations of elements in the access subnetwork 15₂ (see col.52, lines 35-40). When the access controller 2240 receives channel request, it identifies available bandwidth capable of supporting the requested channel (see col.55, lines 60-67). Further, in col.59, lines 1-5, the access controller 2240 instructs one or more elements of the access subnetwork 15₂ to make the connection. In the access subnetwork 15₂, an access controller 16₂ (a second network analyzer) reserves and enables access subnetwork resources for a particular user connection (accounting for the number of channels subscribed by the receiver). See col.7, line 65 to col.8, line 10.

From the above cited statements, it is clearly seen that the access controller 16₁ (an adaptive node) meets functions of the claimed adaptive node described in the specification. Even

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though a second network analyzer is not mentioned in the access controller of Bigham et al, but one skilled in the art should agree that the access controller of Bigham et al. is equal to the claimed adaptive node having a physical equipment performing the step of accounting for the number of channels subscribed by receiver because the the access controller of Bigham et al. does at least one function stated in the specification.

With the combination comprising access controller of Bigham et al. into the Paul et al. , it would have been obvious to one skilled in the art provide the claimed invention as stated above. The motivation is to use the adaptive node to monitor network channels condition, determine whether the receiver should modify its capability in response to the network channels condition so that transmission signals is provided with a good quality.

In claim 3, Paul et al. discloses the adaptive node comprising a plurality of adaptive nodes, at least one of the plurality of adaptive nodes is upstream of at least one other of the plurality of adaptive nodes (see fig.4, designate receiver DRs 178, 188; col.4, lines 42-55).

In claims 4 and 19, Paul et al. discloses, in fig.4 , col.4, lines 35 to col.5, lines 5, the second network analyzer (designate receiver DR 178) merges channel control signals received from other receivers (receives NACK and retransmit request sent from receiver R) and forward the merged channel control signals (NACK) to an upstream peer (designate receiver DR 188 and sender S) in order to dynamically modify transmission of the subscribed channels to the receivers (DR modifies transport layers to reduce latency).

In claim 5, Paul et al. discloses the upstream peer comprises the server (sender 110 is a video server; col.3, lines 55-60).

In claim 6, Paul discloses the receiver is a plurality of receivers (see fig.1, receiver 1 and receiver 3, each receives different video streams; see col.6, lines 1-7).

In claim 20, Paul et al. discloses the client (nodes in network 150 and application layer 102) comprises at least a receiver (receiver 1) and an adaptive node (node in the network 150).

In claims 2, 17 and 18, Paul et al. discloses, in fig.4, designate receiver DR 178 (an adaptive node) that caches received data and processes NACK from receiver R (adaptive node comprises a mass data store capable of buffering data; see col.4, lines 42-50).

Response to Arguments

Applicant's arguments filed on 11/22/06 have been fully considered but they are not persuasive.

Refer to claims 1-7 and 16-20, Applicant argues that the access controller of Bigham et al. is not sufficient to correspond to the claimed adaptive node having a second network analyzer that accounts for the number of channels subscribed by the receiver.

From specification, page 5, paragraphs [20] and [21], an adaptive node is defined as capable of forwarding subscribed channels to receiver; accounts for channels subscribed by receiver, perceive network congestion at an adaptive node and dynamically modifies transmission of channels based on the perceived network congestions. Further, in paragraph [22], an adaptive node may serve as a control agent.

Bigham et al. discloses, in fig.1, access controller 16₁ (an adaptive node) located between video provider 11 (server) and customer devices 17 (see col.7, lines 30-40 and 60-67). The access controller is described in fig.9 as access controller 2240 which monitor operations of elements in the access subnetwork 15₂ (see col.52, lines 35-40). When the access controller

2240 receives channel request, it identifies available bandwidth capable of supporting the requested channel (see col.55, lines 60-67). Further, in col.59, lines 1-5, the access controller 2240 instructs one or more elements of the access subnetwork 15₂ to make the connection. The abstract also states that the responsibility of the access controller is to control the resources, provide requested resources and monitor the use of resources provided to users.

From the above cited statements, it is clearly seen that the access controller 16₁ (an adaptive node) meets functions of the claimed adaptive node described in the specification. Even though a second network analyzer is not mentioned in the access controller of Bigham et al, but one skilled in the art should agree that the access controller of Bigham et al. is equal to the claimed adaptive node having a physical equipment performing a step of accounting for the number of channels subscribed by receiver because the access controller of Bigham et al. does at least one function stated in the specification.

With the combination comprising access controller of Bigham et al. into the paul et al. , it would have been obvious to one skilled in the art provide the claimed invention as stated above. The motivation is to use the adaptive node to monitor network channels condition, determine whether the receiver should modify its capability in response to the network channels condition so that transmission signals is provided with a good quality.

Claims 8-15 are allowed over the prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Friday from 8:30 to 4:30. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Field, can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Hanh Nguyen

A handwritten signature in black ink, appearing to read 'H. Nguyen', with a stylized, cursive script.

HANH NGUYEN
PRIMARY EXAMINER